Assamoosick Swamp and Tributaries TMDL Development

Assamoosick Swamp, Seacorrie Swamp, German Swamp, UT Assamoosick Swamp, and UT Seacorrie Swamp

Final Public Meeting

March 4, 2010

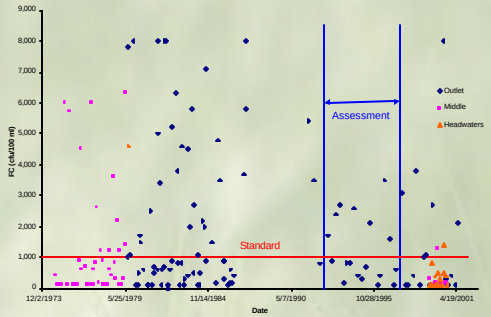
Purpose of this meeting

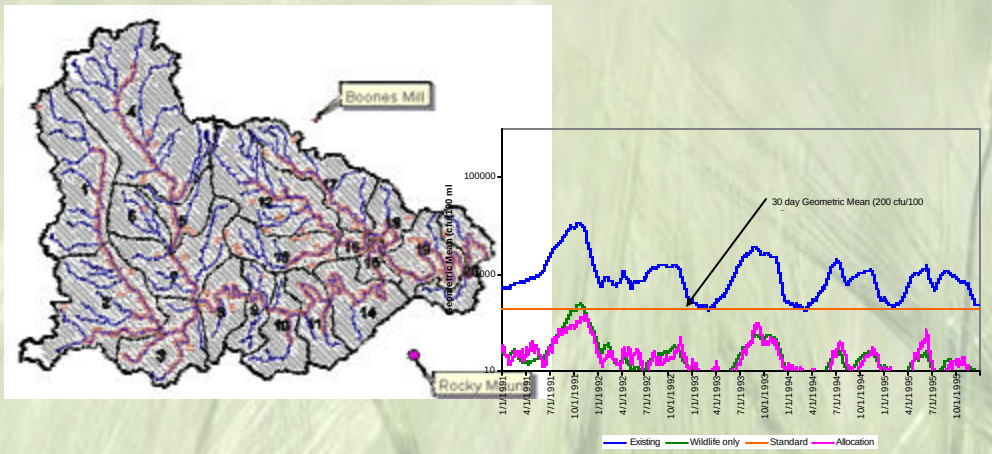
To discuss TMDLs for Assamoosick Swamp & Tributaries watershed

Total Maximum Daily Load is how much pollutant can enter the stream and have the stream meet the water quality standards

Major Components of the TMDL Report Development

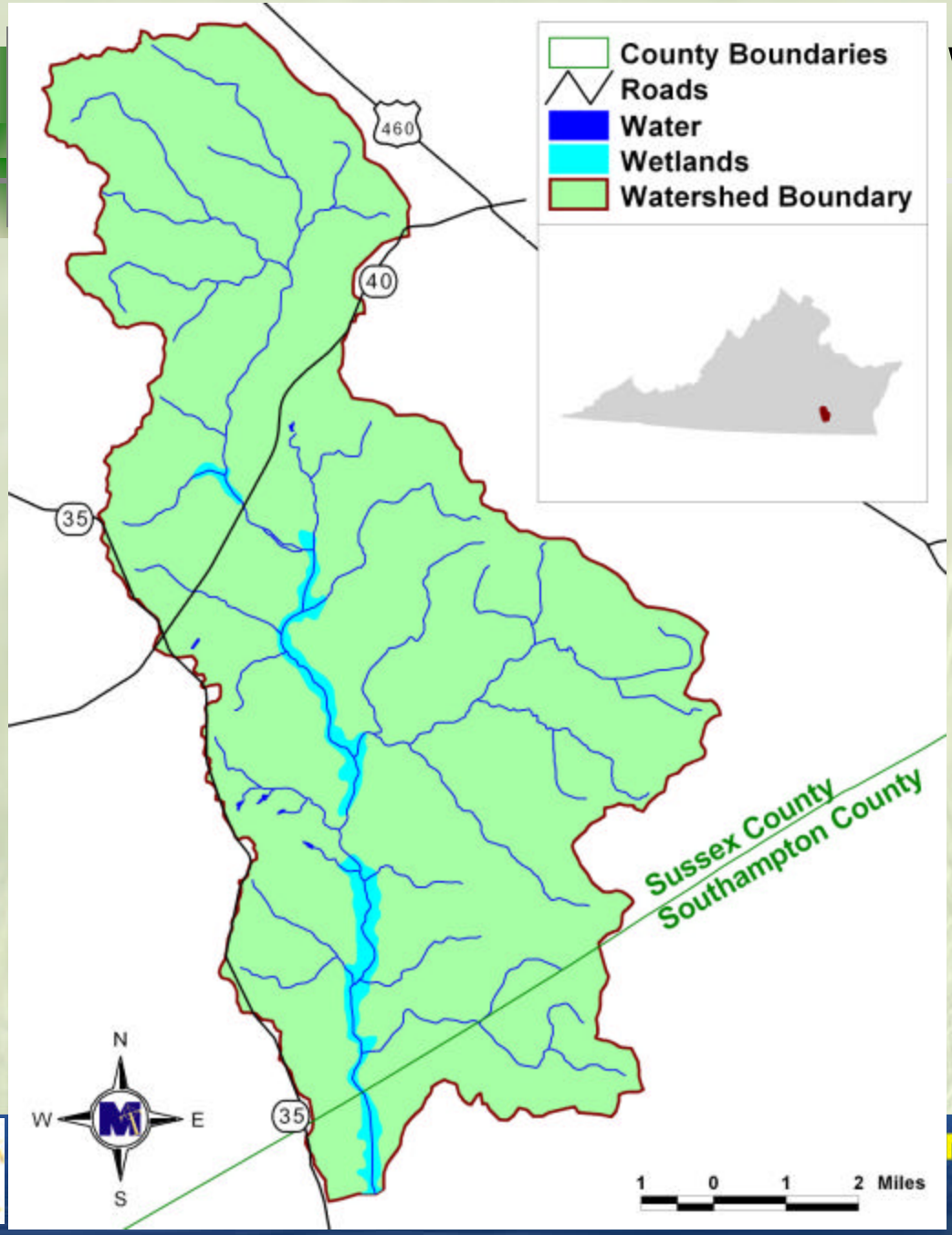
- Source Assessment
- Modeling
  - Hydrology
  - Water Quality
  - Load Allocation
- Public Participation



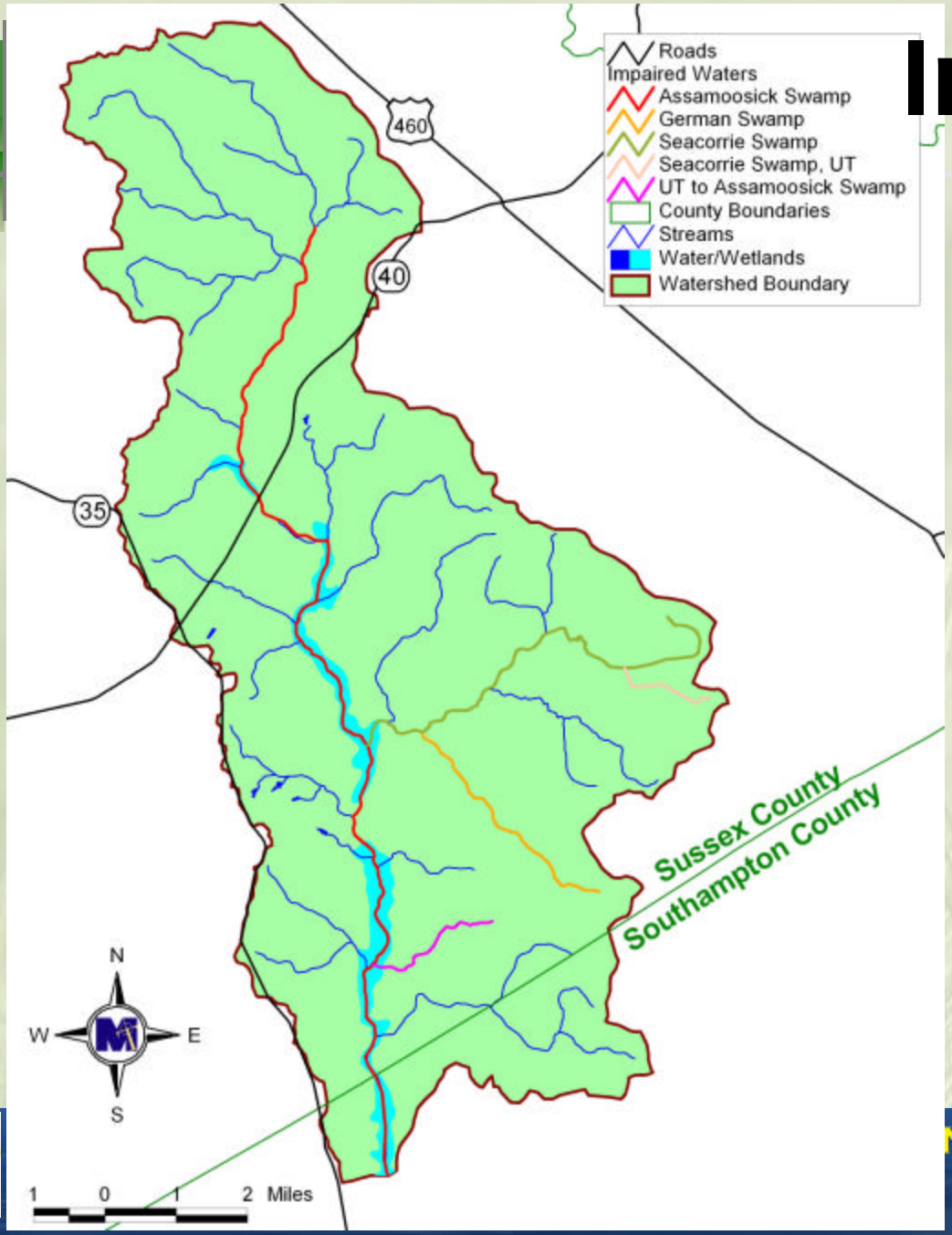


Watershed

Location



Impairments



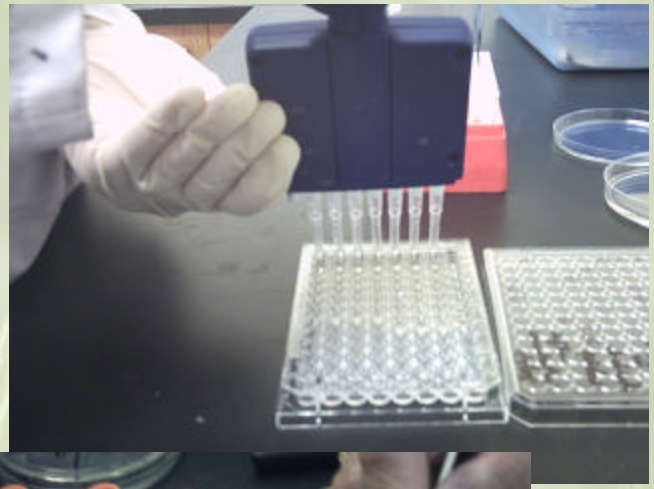
What are the Sources of Bacteria?

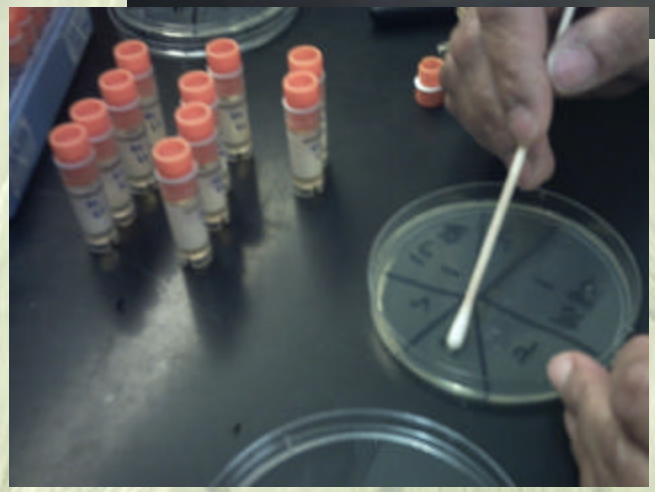
- Permitted Discharges
- Human
  - Failing Septics
  - Straight Pipes
- Pets
- Livestock
- Wildlife

Bacterial Source Tracking (BST)

Independent Lab Test

- Determines bacteria source
  - human
  - pet
  - livestock
  - wildlife





What is the Predominant Source?

Stream	Station ID	Wildlife	Human	Livestock	Pet	Anthropogenic
Assamoosick Swamp	5AASM013.36	46%	6%	15%	33%	54%
Assamoosick Swamp	5AASM018.62	55%	4%	12%	29%	45%
Assamoosick Swamp	5AASM021.22	36%	12%	25%	27%	64%
Seacorrie Swamp	5ASRE005.89	45%	16%	11%	28%	55%
UT to Seacorrie Swamp	5AXDX001.35	34%	15%	7%	44%	66%
German Swamp	5AGMN000.54	56%	11%	22%	11%	44%

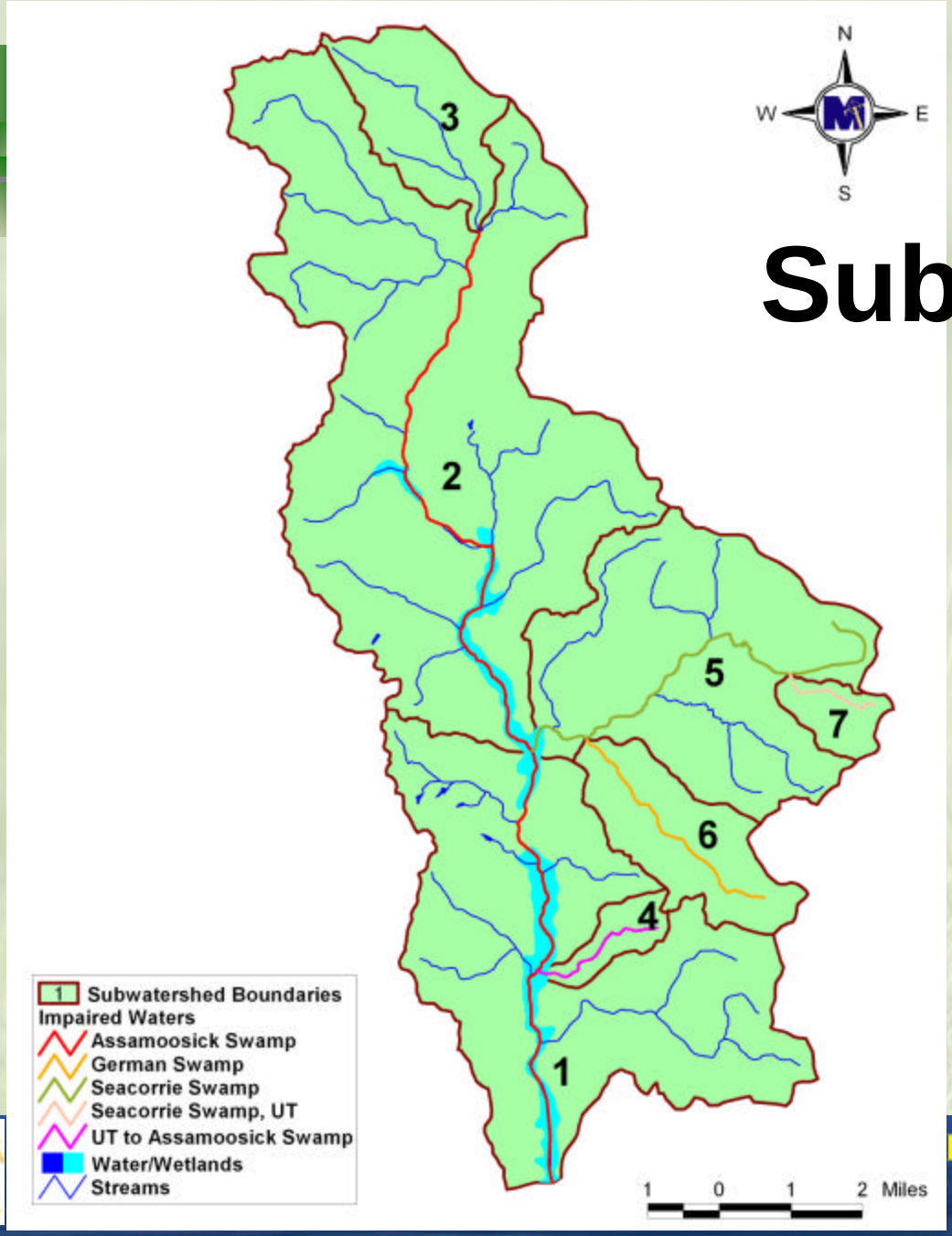
Endpoint Determination

E. coli bacteria

Two standards

- 126 cfu/100 ml geometric mean
- 235 cfu/100 ml instantaneous sample

Subwatersheds



How Do We Determine the Bacteria TMDLs?

+

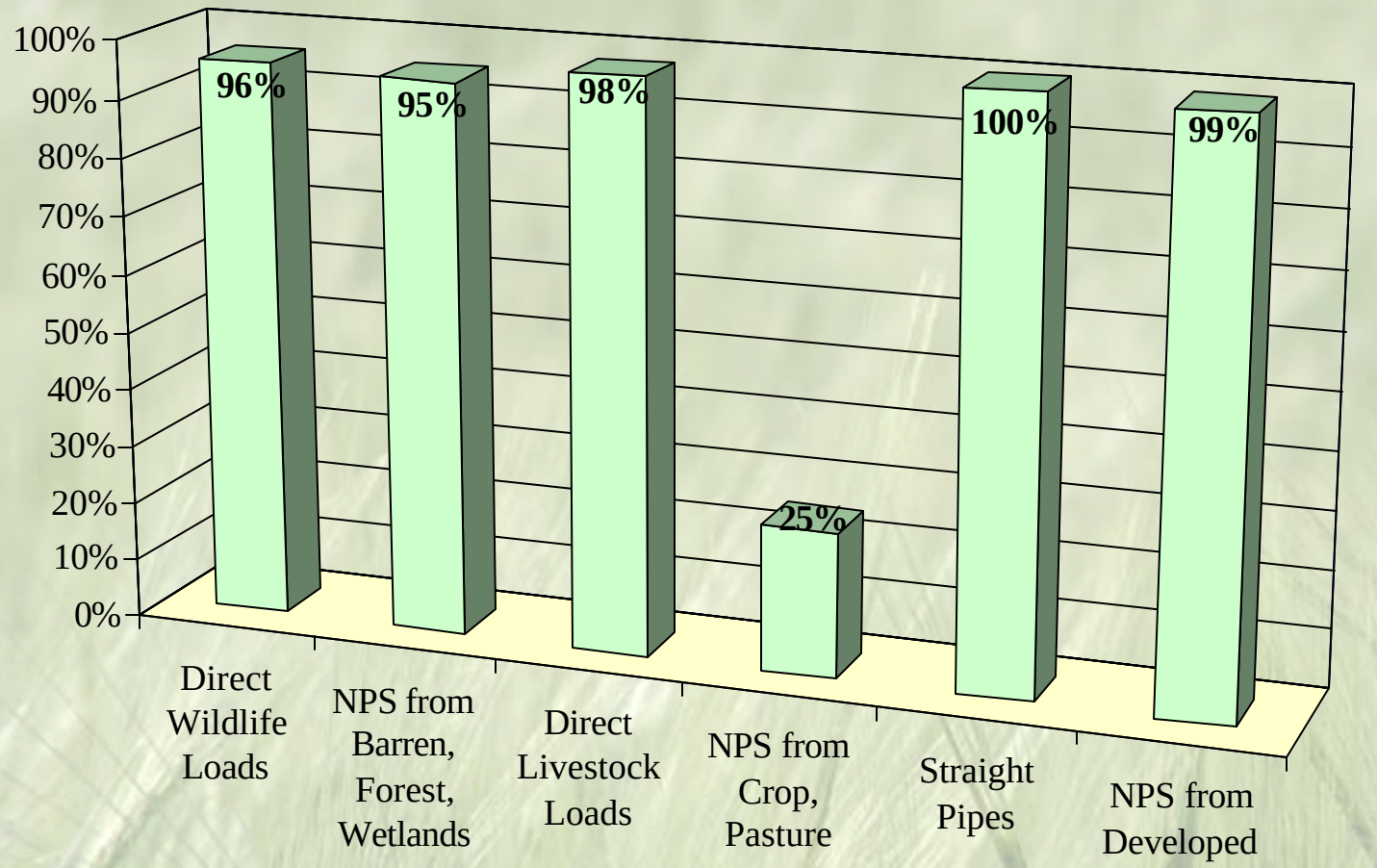
Watershed data

TMDL

Modeling

Assamoosick Swamp and Tributaries: *E. coli* Load Reductions

Assamoosick Swamp and Tributaries Final TMDL Scenario



Assamoosick Swamp and Tributaries Final *E. coli* TMDL Table

WLA + LA + MOS = TMDL

Permit	WLA (cfu/hr)	LA (cfu/hr)	MOS	TMDL (cfu/hr)	Existing (cfu/hr)
	6.05E+12	**4.38E+13**	**Implicit**	**4.99E+13**	**3.01E+14**
VA0088978	*1.01E+12*				
Future Growth	*5.04E+12*				

Overall % reduction: 83.5%

Thank You

- Department of Environmental Quality
- Department of Conservation and Recreation
- Soil and Water Conservation Districts
- Virginia Department of Health
- Natural Resources Conservation Service
- Watershed stakeholders

Contact

Margaret Smigo, DEQ - Piedmont Regional Office

4949-A Cox Road

Glen Allen, VA 23060

(804) 527-5124

margaret.smigo@deq.virginia.gov

Send Written Comments by: April 3, 2010